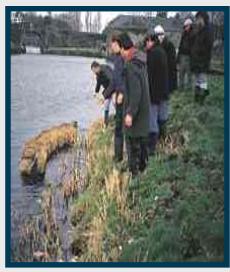




# Focus on Best Management Practices for Using Barley Straw for Algae Control in Non-Flowing Water

from Ecology's Water Quality Program, Watershed Management Section



**Studies show that when barley straw is placed in water, fungi and microorganisms break down the straw to form compounds that inhibit the growth of algae.**

The following guidelines for effectively using barley straw have been identified in publications from Purdue University<sup>1</sup> and the Institute of Arable Crops Research Centre for Aquatic Plant Management<sup>2</sup>.

## How much do I use?

*How large is your pond?* Area = (radius x radius) x 3.14  
(Take the average width; divide by 2 to get radius.)

Example for a pond width of 20 ft:

Radius = 20 ft/2 = 10 ft.

$$r^2 = 10^2 = 10 \text{ ft} \times 10 \text{ ft.} = 100 \text{ sq. ft.}$$

$$100 \text{ sq. ft.} \times 3.14 = 314 \text{ sq. ft.}$$

Then use:

- 0.3 – 0.8 oz. for each 10 square feet, or
- 54 – 225 lbs. per acre, or
- 1– 5 bales per acre (one bale ≈ 45 lbs)

The lower values are for clear water. The higher values are for muddy water.

More is *not* better. It is best not to exceed recommended amounts because more straw does not increase effectiveness and may degrade water quality.

## When do I place straw?

Straw should be placed in early spring, prior to the growth of algae.

- Algae start reproducing faster as waters warm.
- It takes 4-6 weeks for the barley to produce an effect.

## What do I need to know?

- Use organic straw. Barley crops that are treated with herbicides do not work as well and should not be placed in water.
- Barley straw needs oxygen to release the algae-controlling chemicals.

- Loosely pack straw in nylon or mesh bags that allow water to flow through.
- Do not use whole bales or tightly packed straw since this will exclude oxygen.
- Do not force the barley straw bags totally under water in ponds or lakes.
- Straw will produce a dark color in the water for a few weeks as it decomposes. This will disappear.

## **Where do I place it?**

Locate straw bags where control is wanted, such as around docks and swim areas.

- Place bags in inlets to ponds and small lakes to aid in aeration.
- Stake or anchor the bag in place.
- Float bags on the surface.
- Do not allow the bags to sink to the bottom.
- **A Hydraulics Project Approval (HPA) may be required. Contact your regional Department of Fish and Wildlife office prior to placing straw.**

## **How long does it work?**

- Remove bags after four to six months.
- Straw must not be left in the water over the winter.
- We want to know how it worked for you. Your feedback will help us provide better guidance to others.  
Please fill out the simple questionnaire at:  
[www.ecy.wa.gov/programs/wq/pesticides/final\\_pesticide\\_permits/nuisance/nuisance\\_index.html](http://www.ecy.wa.gov/programs/wq/pesticides/final_pesticide_permits/nuisance/nuisance_index.html)

## **Questions and comments on this focus sheet may be directed to:**

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## **For more information, you may review the following sources:**

<sup>1</sup>Lembi, Carole A. 2002, *Aquatic Plant Management: Barley Straw for Algae Control*.  
 APM-1-W, Botany and Plant Pathology, Purdue University. E-Mail: [lembi@purdue.edu](mailto:lembi@purdue.edu)

<sup>2</sup>Newman, Jonathan. August 2001, E-Mail [capm@frueeuk.com](mailto:capm@frueeuk.com) *Control of Algae Using Straw*. Institute of Arable Crops Research – Centre for Aquatic Plant Management. <http://www.rothamsted.bbsrc.ac.uk>